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CORRES. CONTROL
OUTGOING LTR.NO.

90 RF 3215

DIST.	LTR	ENC
Allhoff, R.H.		
Green, J. H.		
Burlingame, A.J.		
Ferrera, J. W.	X	
Ferris, L. R.		
Francis, G. E.		
Goodwin, R.		
Healy, T. J.		
Baker, E. H.		
Kersh, J. M.	X	
Kirby, W. A.		
Maiesco, J. R.		
McKinley, K. M.	X	
Mellen, J. B.		
Farrell, R. E.		
Sanford, T. H.		
Shannon, W.M.		
Van Leuven, D.		
Warner, B. P.		
Young, E. R.		
Betcher, D. H.		
Carnival, G. J.		
Harman, L. K.		
Heden, J. L.		
Hoffman, R. B.		
Namara, R. L.		
Krieg, D. M.		
Loudenberg, G.		
Naimon, E. R.		
Newby, R. L.		
Turner, R. L.		
Velasquez, R.N.		
[illegible]	X	
Corres.Control	X	X
Contract Admin		
[illegible]	X	
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Classification:		
Unclassified	X	X
Confidential		
Secret		

AUTH. CLASSIFIER

DATE 5/30/90

In Reply to Ltr. No.

PCs
LTR. APPROVALS:

EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.
ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

May 31, 1990

90-RF-3215

Robert M. Nelson, Jr.
Manager
DOE, RFO

Attention: T. Lukow

ANALYSIS OF NEEDS FOR WATER MANAGEMENT PLAN

EG&G is aggressively evaluating the numerous components and options involved in developing a comprehensive Water Management Plan (WMP). An important objective of these efforts has been to determine the feasibility of accelerating the schedule for the plan by one year to achieve completion by September 30, 1990. This letter summarizes the water management activities accomplished to date, outlines those WMP goals that can be achieved within the next four months, and discusses some major issues that could delay completion of a final WMP beyond the target date.

We have achieved the short-term goals of treating and discharging water from the terminal ponds; the first phase of this project is nearing completion. Our priority has been to continue efforts to manage the pond systems by maintaining safe water levels while continuing to meet all discharge standards. We are upgrading the Interim Water Management Plan to define proper operating procedures for RFP detention ponds. For example, models have been developed to predict monthly pond capacities and discharge requirements during "average" and "wet" precipitation conditions and available treatment rates. The Interim Plan will be redrafted and submitted for your review in the near future. (Note that both the Interim Plan and the Contingency Plan, which identify pond water discharge actions for contingencies up to and including an emergency situation, were both moved down on the priority list to allow completion of this assessment.)

The second order of business after development of the Interim Plan and discharge of the terminal ponds was to address actions needed to maintain adequate treatment systems that will provide acceptable discharges of water through the Spring, 1991. A significant concern relating to continued pond water treatment is the lack of technically feasible methods to remove trace radioactive contaminants while achieving the high discharge flows required (up to 1500 gallons per minute). Analysis of radiochemical data from the filtration system, which was used for the current discharge, failed to indicate statistically significant reductions in gross alpha and gross beta levels attributable to this treatment. The discharge limits were met only because *the raw water did not exceed the limits.* Also, radionuclide levels in raw water entering the plant often exceed the discharge limits and CDH has indicated that standards may need to be tightened again!

ADMIN RECORD

SW-A-003586

EG&G, Los Alamos, and our subcontractors are currently evaluating available technology that could be installed for future discharges; however, we remain very concerned about the issue of treating low-level radiochemistry in water . Several weeks are required to obtain specific radionuclide results for a water sample, which is a significant roadblock to evaluating, monitoring, and *controlling* any water treatment process. The lack of a viable treatment technology, length of time required to obtain analytically accurate characterization of radionuclide levels, and likelihood that we will face raw water levels in excess of the new standards combine to present the most likely scenario(s) for future surface water management crises.

We are taking the only action available at the moment in preparing for future discharges by implementing a near term water treatment plan. That plan, which is essentially complete, calls for:

1. Sampling, analysis, and disposal of carbon in the existing treatment system,
2. Recharging used systems with new carbon in preparation to treat future discharges for trace organics,
3. Providing enclosures for a "central" treatment system at Pond A-4 to allow treatment during inclement weather,
4. Identifying and implementing undefined technology to remove radionuclides, and
5. Recycle of pond C-2 waters to the main plant for use in cooling towers and other suitable applications.

We also are pursuing the possibility of dispersing water (i.e., fogging and snow making) in the event discharge limits cannot be achieved.

Substantial effort will be required to implement this plan, but success is imperative if we are to maintain positive momentum gained in dealing with the surrounding communities and various regulatory agencies.

We are also committed to producing a high quality Water Management Plan while we maintain attention to the daily operations and projects described above. The individual components of the plan that your staff identified as critical to the planning process are presented below with our thoughts on what can be achieved and problems/issues that are likely to be encountered.

1. *Protection of surface and groundwater from contamination.*

   Several projects are active in response to the chromic acid corrective action plan, which is planned to be folded into the Federal Facility Compliance Agreement for the Sewage Treatment Plant. These projects are designed to identify and isolate potential sources of contamination (i.e., footing drains) and determine possible corrective

actions. Information generated by this work will be incorporated into the Water Management Plan as it becomes available. Likewise, RCRA operational and closure activities, operational practices such as pesticide use, and results of source identification studies will be considered to the extent possible. These efforts are a high priority for CDH and EPA. However, the cities have stated their priority is to ensure water from the plant does not enter the drinking water supplies; source control alone will never meet their objectives.

2. *Prevention of the spread of groundwater and provisions for the remediation of existing areas of contamination.*

   The elements of the Interagency Agreement will be considered (in summary form, at a minimum) in the Water Management Plan.

3. *Minimization of discharges from the plantsite.*

   A difficult policy decision must be resolved before the technical content of the ASI studies can be focused to expedite the planning process. Considerable discussion has occurred on this issue: Does zero discharge include all water from RFP or does it represent zero discharge of contaminants? The studies must include options for the central plant area and all water entering the buffer zone until this policy decision is made and concurrence is reached between all affected parties. (Wright Water Engineers has completed a conceptual study for zero discharge of both general areas.) In the interim, projects for recycle of sewage treatment plant and Pond C-2 water are being initiated. These and any other components of the zero discharge efforts will be included.

4. *Assuring any discharge of water from RFP is safe.*

   Wright Water Engineers will review the literature for data used in developing health-based water quality standards. That information will be summarized and presented in the Water Management Plan. It should be noted that the application of health based standards for water quality is currently an issue between EPA and the State of Colorado. It is unlikely that Rocky Flats can successfully address this issue without significant productive interaction with the Colorado Water Quality Control Commission (CWQCC) and other regulatory agencies.

5. *Development of discharge systems that are sensitive to societal concerns.*

   This component is the focus of the parties preparing options and criteria for presentation to Congressman Skaggs. There are numerous possible options and each option requires multiple interrelated design decisions. We and our subcontractors have completed sufficient conceptualization work on this component to

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support our participation in the Skaggs Committee meetings. Success of the committee in significantly narrowing the choices is a *necessary* condition to successful completion of a Water Management Plan by September 30, 1990. Implementation of any option will require careful coordination with all regulatory agencies to assure compliance with current and future regulations. The NEPA process is a front end concern that will interfere with the Cities' desires for rapid action. Determination of legal issues concerning improvements (i.e., will ponds have to be lined?) will have a heavy impact on projected costs. The definition of "state waters" will assist in decisions on design of detention ponds that will be needed for any option. It is unclear whether detention ponds in the natural watercourses will have to meet newer restrictive water quality standards. Construction of "off-line ponds" will escalate costs astronomically. Once again, interaction with the CWQCC and other regulatory agencies is a *necessity* if the planning process is to be conducted effectively.

EG&G is committed to continue responding to the management of surface water as a top priority. The assignment you have given us is a challenge that we intend to meet to the maximum extent possible.

J. M. Kersh
Associate General Manager

FDH/lmc

Original and 1 cc - R. M. Nelson, Jr.

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